

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021789**Date Inspected:** 13-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 12BE to Segment 12CE (Full Height Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector performed Dimension Control Inspection on the Full Height Longitudinal Diaphragm to Longitudinal Diaphragm at Work Point E3 (Bike Path side) and at Work Point E4 (Cross Beam side) for the Segment 12BE to Segment 12CE between Panel Point (PP) 114.5 to PP 115 at the following locations:

The offset was measured at 8 (Eight) different Elevations at vertical web plates.

At Elevation 20mm from the Bottom Panel.

At Elevation 1700mm from the Bottom Panel.

At Elevation 2000mm from the Bottom Panel.

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At Elevation 3400mm from the Bottom Panel.

At Elevation 3600mm from the Bottom Panel.

At Elevation 4600mm from the Bottom Panel.

At Elevation 4800mm from the Bottom Panel.

At Elevation 5400mm from the Bottom Panel.

The QA Inspector measured the Offset using 1(One) Meter Straight Edge.

The Sweep was measured at 100 mm and 600mm from Floor Beam at Panel Points (PP) 114.5 and from PP 115 at Center (Total 5 Locations) using string line.

The measurements was recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Bike Path at Bay # 19

This QA Inspector performed Dimension Control Inspection on the Bike Path bottom plate for flatness check across the longitudinal butt weld. Flatness check was performed on following mentioned Bike Paths and Bike Path are identified as:

BK004A-013.

The QA Inspector measured the flatness using 600mm long straight edge across the Butt (CJP) weld and using 1500mm long straight edge between the stiffeners which are plug weld to bottom plate.

Observed flatness within the allowable tolerance.

The result of the inspection was informed to ZPMC QC Supervisor Mr. Xu Tao and Caltrans Lead Inspector Mr. Mark Miller and Mr. Hiranch Patel.

Segment 12CE (U-Rib hold back welding)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Fillet weld. The weld joint was designated as DP3032-001-009. The welder identification was 040270 and observed welding in the 3F (Vertical) position using approved Welding Procedure Specification WPS-B-P-2113-Tc-U4b-FCM-1. The piece mark was identified as weld connecting the Deck Panel U-Rib to the Diaphragm at PP 117, Bike Path side.

Please reference the pictures attached for more comprehensive details.

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### Segment 12BE (Full Height Longitudinal Diaphragm to Bottom Panel connecting weld)

This QA Inspector observed the repair welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg3002M-090. The welder identification was 040367 and was observed welding in the 2G (Horizontal) position using approved Welding Procedure Specification WPS-345-FCAW-2G(2F)-ESAB-Repair. The piece mark was identified as weld connecting Longitudinal Diaphragm to Bottom Panel at work point E4. ZPMC performed repair welding in accordance with Welding Repair Report B-WR20266.

Please reference the pictures attached for more comprehensive details.

### Segment 12BE (Full Height Longitudinal Diaphragm to Bottom Panel connecting weld)

This QA Inspector observed the repair welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg3002N-090. The welder identification was 040367 and was observed welding in the 2G (Horizontal) position using approved Welding Procedure Specification WPS-345-FCAW-2G(2F)-ESAB-Repair. The piece mark was identified as weld connecting Longitudinal Diaphragm to Bottom Panel at work point E4. ZPMC performed repair welding in accordance with Welding Repair Report B-WR20266.

### Segment 12CE (Full Height Longitudinal Diaphragm to Bottom Panel connecting weld)

This QA Inspector observed the repair welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg3003S-035. The welder identification was 040367 and was observed welding in the 2G (Horizontal) position using approved Welding Procedure Specification WPS-345-FCAW-2G(2F)-ESAB-Repair. The piece mark was identified as weld connecting Longitudinal Diaphragm to Bottom Panel at work point E4. ZPMC performed repair welding in accordance with Welding Repair Report B-WR20266.

### Segment 12BE to Segment 12CE (Match Drilling)

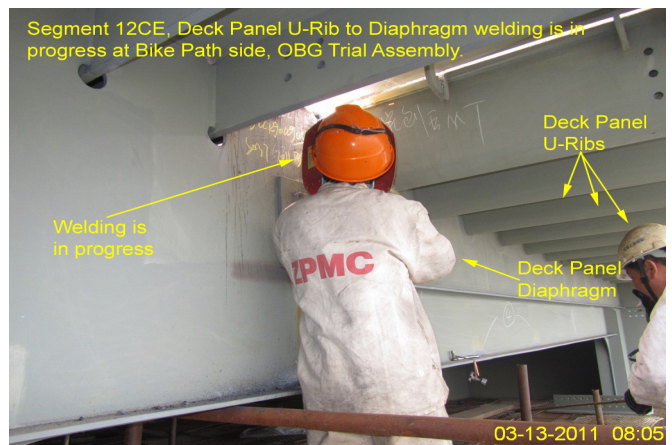
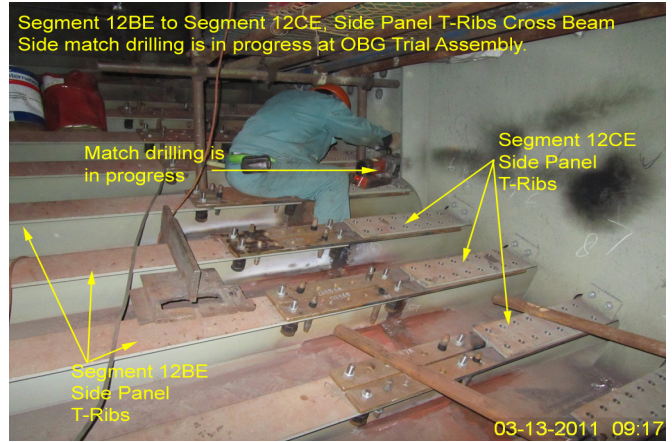
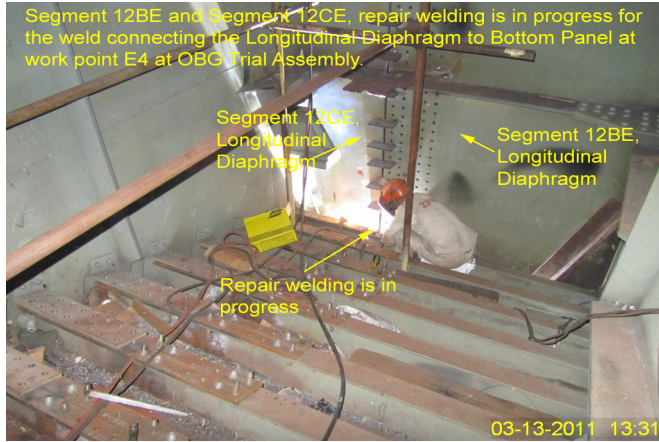
This QA Inspector observed match drilling is in progress on the T-Ribs at Side Panel, Cross Beam side at Transverse Splice of Segment 12BE to Segment 12CE.

Please reference the pictures attached for more comprehensive details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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## Summary of Conversations:

No relevant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

**Inspected By:** Math,Manjunath

Quality Assurance Inspector

**Reviewed By:** Miller,Mark

QA Reviewer